CANADA

National Energy Board

Reasons for Decision

Trans Québec & Maritimes Pipeline Inc.

RH-2-90

February 1991

Tolls

National Energy Board

Reasons for Decision

Trans Québec & Maritimes Pipeline Inc.

Application dated 17 July 1990, as revised, for new tolls effective 1 January 1991 and 1 January 1992

RH-2-90

February 1991

Cat. No. NE 22-1/1991-2E
ISBN 0-662-18515-3

This report is published separately in both official languages.

Ce rapport est publié séparément dans les deux langues officielles.

Copies are available on request from:

Regulatory Support Office
National Energy Board
473 Albert Street
Ottawa, Canada
K1A 0E5
(613) 998-7204

Exemplaires disponibles auprès du:

Bureau du soutien de la réglementation
Office national de l'énergie
473, rue Albert
Ottawa (Canada)
K1A 0E5
(613) 998-7204

Printed in Canada

Imprimé au Canada

Recital, Appearances and Intervenors

IN THE MATTER OF the *National Energy Board Act* and the Regulations made thereunder; and

IN THE MATTER OF an application by Trans Québec & Maritimes Pipeline Inc. for certain orders respecting tolls under Part IV of the *National Energy Board Act*, filed with the Board under File No. 1562-T28-9.

Examined by way of written submission and a public hearing held in Ottawa, Ontario on 10, 11, 12 and 13 December 1990.

BEFORE:

C. Bélanger	Presiding Member
R. Priddle	Member
A. Côté-Verhaaf	Member

APPEARANCES AT THE PUBLIC HEARING:

Trans Québec & Maritimes Pipeline Inc.	L.-A. Leclerc B. Courtois
Alberta Petroleum Marketing Commission	L. L. Manning
Canadian Petroleum Association	C. K. Yates
Consumers' Gas Company Ltd., The	H. Soudek
Gaz Métropolitain, inc.	F. Hébert
NOVA Corporation of Alberta	J. Hopwood, Q. C.
le Procureur général du Québec	J. Robitaille
National Energy Board	J. Morel N. Bouffard

INTERVENORS TO HEARING ORDER RH-2-90:

Alberta Petroleum Marketing Commission

Canadian Petroleum Association

Consumers' Gas Company Ltd., The

Foothills Pipe Lines Ltd.

Gaz Métropolitain, inc.

ICG Utilities (Ontario) Ltd.

Industrial Gas Users Association

Minister of Energy for Ontario

NOVA Corporation of Alberta

Pan-Alberta Gas Ltd.

le Procureur général du Québec

TransCanada PipeLines Limited

Union Gas Limited

Table of Contents

List of Appendices

Abbreviations

Base Year	1 April 1989 to 31 March 1990
CAPM	capital asset pricing model
CPA	Canadian Petroleum Association
CPI	Consumer Price Index
DCF	discounted cash flow
ECAPM	empirical capital asset pricing model
FST	Federal Sales Tax
GST	Goods and Services Tax
LCT	Large Corporations Tax
Long-Canada	long-term Government of Canada bond
NEB or the Board	National Energy Board
NOVA	NOVA Corporation of Alberta
O&M	operating and maintenance
RH-2-88 TQM Reasons for Decision	"National Energy Board Reasons for Decision in the Matter of an application by Trans Québec & Maritimes Pipeline Inc. for certain orders respecting tolls under Part IV of the National Energy Board Act", December 1988
RH-1-88 Phase II TransCanada Reasons for Decision	"National Energy Board Reasons for Decision in the Matter of an application by TransCanada PipeLines Limited for certain orders respecting tolls under Sections 50, 51 and 53 of the National Energy Board Act", June 1989
RH-4-87 TQM Reasons for Decision	"National Energy Board Reasons for Decision in the Matter of an application by Trans Québec & Maritimes Pipeline Inc. for certain orders respecting tolls under Part IV of the National Energy Board Act", November 1987
RH-2-86 TQM Reasons for Decision	"National Energy Board Reasons for Decision in the Matter of an application by Trans Québec & Maritimes Pipeline Inc. made under Part IV of the Act for certain orders respecting tolls and tariffs", August 1986

RH-4-83 TQM Reasons for Decision	"National Energy Board Reasons for Decision in the Matter of an Application by Trans Québec & Maritimes Pipeline Inc. for certain orders respecting tolls under Sections 50, 51 and 52 of the National Energy Board Act", March 1984
RH-4-82 TQM Reasons for Decision	"National Energy Board Reasons for Decision in the Matter of an application by Trans Québec & Maritimes Pipeline Inc.for certain orders respecting tolls and tariffs under Sections 50, 51, 52 and 52.2 of the Act", June 1983
Test Years	1 January 1991 to 31 December 1991, and 1 January 1992 to 31 December 1992
The Act	*National Energy Board Act*
TQM or the Company	Trans Québec & Maritimes Pipeline Inc.
TransCanada	TransCanada PipeLines Limited

Overview

(NOTE: This overview is provided solely for the convenience of the reader and does not constitute part of this Decision or the Reasons, to which readers are referred for the detailed text and tables.)

The Application

On 17 July 1990, Trans Québec & Maritimes Pipeline Inc. ("TQM" or "the Company") applied to the National Energy Board ("NEB" or "the Board") for new tolls to be effective 1 January 1991 and 1 January 1992. The Company requested approval of tolls that would increase by 9.4 percent for 1991 and by a further 2.8 percent for 1992.

TQM requested an increase in its rate of return on equity from 13.75 percent to 14.50 percent for both 1991 and 1992.

Board Procedure

Rate of return issues were heard in an oral hearing that ran from 10 to 13 December 1990. Parties addressed all other issues by written submission.

Revenue Requirement

TQM forecasted an increase in revenue requirement for 1991 of about $6.5 million, or 9.4 percent, from the $69.3 million previously approved by the Board for 1990, and a further $2.1 million, or 2.8 percent, for 1992. The major causes of these requested increases were the introduction of provisions for Income Taxes, Large Corporations Tax and NEB Cost Recovery.

The Board reduced the requested revenue requirements by approximately $1.5 million for 1991 and by about $1.4 million for 1992, primarily as a result of reductions in the requested rate of return on equity.

The requested and approved revenue requirements are summarized as follows:

	Requested	**Approved**
	($million)*	
1990		69.3
1991	75.8	74.3
1992	78.0	76.5

* rounded numbers

Capital Structure and Return on Equity

The Company requested an increase in its rate of return on equity from the approved 1990 level of 13.75 percent to 14.50 percent for both test years. The Board concluded that the existing rate of 13.75 percent continued to be appropriate for both test years.

Toll

The Board's adjustments to the revenue requirements reduced TQM's requested monthly tolls by $0.129 million for 1991 to $6.191 million, and by $0.119 million to $6.379 million for 1992. The approved monthly toll for 1990 had been $5.776 million.

Chapter 1

Background and Application

1.1 Background

Trans Québec & Maritimes Pipeline Inc. ("TQM" or "the Company"), as mandatary for a partnership consisting of TransCanada PipeLines Limited ("TransCanada") and NOVA Corporation of Alberta ("NOVA"), operates a pipeline for the transmission of natural gas. The pipeline extends from the point of interconnection with the TransCanada system at St. Lazare, Québec to a point just west of Québec City, a distance of approximately 298 kilometres. Natural gas is transmitted by TQM for TransCanada and delivered at the points of interconnection of the Company's pipeline with that of the distributor, Gaz Métropolitain, inc.

TransCanada is charged the entire toll determined by the National Energy Board ("NEB" or "the Board") to be just and reasonable in respect of transmission services rendered by TQM. Charges to TransCanada by TQM are, upon approval by the Board, included in TransCanada's cost of service as a component of "Transmission by Others". Thus, TQM's toll becomes an integral part of TransCanada's overall cost of transmission. The monthly toll charged by TQM in a year is one-twelfth of the revenue requirement approved by the Board for the year.

By Order TG-10-88 dated 12 December 1988, the Board ordered TQM to charge, commencing 1 January 1990, a monthly toll of $5,776,000 in respect of the transportation service provided to TransCanada for the year 1990. By Order TGI-6-90 dated 17 December 1990, the Board ordered that, effective 1 January 1991, the toll established by Order TG-10-88 be charged on an interim basis until the day before the Board issued its final Order in this case.

1.2 Application

On 17 July 1990, TQM applied under Part IV of the *National Energy Board Act* ("the Act") for orders to be effective on 1 January 1991 and 1 January 1992 fixing just and reasonable tolls that TQM might charge in those years for or in respect of the transmission of natural gas through its pipeline facilities and disallowing any existing tolls that would be inconsistent with tolls so fixed.

TQM proposed that, subject to the identification of any particular issue by intervenors which might be dealt with through a public hearing, the Board handle the application in a manner similar to that adopted in the proceeding held pursuant to Order RH-2-88, in which all issues other than rate of return were dealt with by written submission.

TQM proposed tolls that conformed with the fixed-toll method of regulation set by the Board in the Company's first toll case pursuant to Order TG-2-83 and reaffirmed by orders arising out of subsequent toll cases.

1.3 Board Procedure

By Order RH-2-90 dated 23 August 1990, the Board decided to hold an oral hearing on rate of return issues, to deal with all other issues by written submission and to conclude the hearing with oral argument and reply on all issues.

The hearing commenced in Ottawa on 10 December and concluded on 13 December 1990.

Revenue Requirement

TQM requested approval of revenue requirements of $75,838,000 for 1991 and $77,975,000 for 1992. The authorized revenue requirement for 1990 was $69,315,000. The proposed increase of $6,523,000 in 1991 and the further increase of $2,137,000 in 1992 were based primarily on the introduction into cost of service of provisions for Income Taxes, Large Corporations Tax ("LCT") and NEB Cost Recovery.

Summaries of the revenue requirements as requested and approved for the test years ending 31 December 1991 and 31 December 1992, depicting the Board's adjustments, are shown in Tables 2-1 and 2-2, respectively. Details of the Board's adjustments to the test-year revenue requirements are provided in Chapters 3 to 6.

Table 2-1

Revenue Requirement for the 1991 Test Year
($000)

	Application as Revised	**NEB Adjustments**	**Authorized by NEB**
Operating Costs			
Operating and Maintenance	6,603	(173)	6,430
Municipal and Other Taxes	2,240	-	2,240
NEB Cost Recovery	732	-	732
Depreciation and Amortization	13,212	-	13,212
Income Taxes	7,017	(673)	6,344
	29,804	(846)	28,958
Return on Rate Base	46,252	(698)	45,554
Total Revenue Requirement	76,056	(1,544)	74,512
Storage Revenue	(218)	1	(217)
Net Revenue Requirement	75,838	(1,543)	74,295

Table 2-2

Revenue Requirement for the 1992 Test Year
($000)

	Application as Revised	NEB Adjustments	Authorized by NEB
Operating Costs			
Operating and Maintenance	7,061	(249)	6,812
Municipal and Other Taxes	2,312	-	2,312
NEB Cost Recovery	760	-	760
Depreciation and Amortization	13,212	-	13,212
Income Taxes	10,388	(547)	9,841
	33,733	(796)	32,937
Return on Rate Base	44,458	(636)	43,822
Total Revenue Requirement	78,191	(1,432)	76,759
Storage Revenue	(216)	1	(215)
Net Revenue Requirement	**77,975**	**(1,431)**	**76,544**

Rate Base

TQM applied for approval of amounts for rate base of $346,460,000 for the 1991 test year and of $333,017,000 for the 1992 test year. The Board's adjustments to rate base amounts for the 1991 and 1992 test years are summarized in Tables 3-1 and 3-2, respectively. The details of the adjustments are explained in succeeding sections of this chapter.

Table 3-1

Rate Base for the 1991 Test Year
($000)

	Application as Revised	NEB Adjustments	Authorized by NEB
Gas Plant in Service			
Gross Plant	471,579	-	471,579
Accumulated Depreciation	(116,282)	-	(116,282)
Net Plant	355,297	-	355,297
Working Capital	1,497	(17)	1,480
Tax Benefit on Sponsors' Development Costs	(12,076)	-	(12,076)
Large Corporations Tax	542	(31)	511
Unamortized Debt Issuance Costs	1,200	-	1,200
Total Rate Base	**346,460**	**(48)**	**346,412**

Table 3-2

Rate Base for the 1992 Test Year
($000)

	Application as Revised	NEB Adjustments	Authorized by NEB
Gas Plant in Service			
Gross Plant	471,606	-	471,606
Accumulated Depreciation	(129,488)	-	(129,488)
Net Plant	342,118	-	342,118
Working Capital	1,556	(25)	1,531
Tax Benefit on Sponsors' Development Costs	(11,641)	-	(11,641)
Unamortized Debt Issuance Costs	984	-	984
Total Rate Base	**333,017**	**(25)**	**332,992**

3.1 Gross Plant

TQM forecasted its average gross plant in service for the test year ending 31 December 1991 to be $471,579,000, and for the test year ending 31 December 1992 to be $471,606,000. These amounts reflect the addition of plant approved by the Board under Part III of the Act and the use of depreciation rates approved by the Board as described in Chapter 4.

Decision

The Board has reviewed the projected average plant in service amounts of $471,579,000 for the 1991 test year and of $471,606,000 for the 1992 test year and finds them reasonable for inclusion in rate base for those test years.

3.2 Working Capital

TQM calculated its working capital allowance in accordance with the methodology previously approved by the Board.

The adjustments to working capital shown in Tables 3-1 and 3-2 result from the Board's adjustments of TQM's operating and maintenance ("O&M") expenses, as detailed in Chapter 6.

3.3 Large Corporations Tax

As detailed in section 5.5.1, TQM received Board approval in 1989 to record in a deferral account the amounts of LCT which were liable to be paid pursuant to amendments to the *Income Tax Act* sanctioned on 23 October 1990 (S.C. 1990, c. 39, Part I.3).

Part I.3 imposes a capital tax on corporations whose taxable capital employed in Canada at the end of a taxation year exceeds $10 million. For 1989 and 1990, the tax was levied at a rate of 0.175 percent. It is proposed that this rate be increased to 0.200 percent for 1991. For corporations with taxation years ending after June 1989, the tax is to be prorated on the basis of the portion of the year occurring after June 1989. Since TQM's income tax provision is based on a calendar year, the appropriate LCT liability for 1989 for the Company is based on the period of July to December.

In this proceeding, TQM requested Board approval to recover the 1989 and 1990 deferred amounts in the revenue requirement for 1991, including the collection of return on the average unamortized deferred amount through inclusion in the rate base. As also detailed in section 5.5.1, the Board approved TQM's requests.

The average unamortized balance of the LCT in the 1991 test-year rate base has been adjusted by $31,000. This adjustment reflects the removal from TQM's taxable capital of the costs of assets previously disallowed by the Board, the basic capital deduction and the revision of the 1990 LCT carrying charges, all as detailed in section 5.5.1.

Chapter 4

Depreciation and Amortization

4.1 Depreciation Rates

The Company filed a depreciation study in July 1988 as part of its application for new tolls for the 1989 and 1990 test years. The Board approved the new rates as requested. TQM's existing depreciation rates are summarized in Table 4-1. The Company has requested Board approval to continue using these rates for the 1991 and 1992 test years except for the rate for data processing equipment included in NEB Account 489.

TQM requested approval of the Board for a rate of 20 percent for depreciating NEB Account 489, which consists entirely of the Company's data processing equipment. In support of its request, the Company cited the Board's approval of a similar rate for such equipment for TransCanada in its RH-1-88 Phase II TransCanada Reasons for Decision. In recommending that rate, TransCanada had relied on a survey of various companies in the Canadian gas industry.

Intervenors did not comment on any depreciation issues.

Views of the Board

The Board finds TQM's request of a 20 percent depreciation rate for its data processing equipment to be reasonable and well supported.

Decision

The Board approves the use of the 20 percent rate for NEB Account 489, comprised entirely of TQM's data processing equipment, as well as the continued use of the existing depreciation rates for all other NEB accounts for the 1991 and 1992 test years.

Table 4-1

Depreciation Rates
(%)

NEB Account		TQM Existing Depreciation Rate
461	Land Rights	2.75
463	Measuring and Regulating Structures and Improvements	2.80
464	Other Structures and Improvements	2.95
465	Mains	2.75
467	Measuring and Regulating Equipment	5.15
468	Communication Structures and Equipment	10.00
482	Structures and Improvements	10.00
483	Office Furniture and Equipment	7.00
484	Transportation Equipment	16.00
485	Heavy Work Equipment	6.75
486	Tools and Work Equipment	7.00
489	Other Equipment	11.00

Cost of Capital

TQM applied for a rate of return on common equity of 14.50 percent for both the 1991 and 1992 test years, based on a deemed common equity component of 25 percent. The existing approved rate of return on equity was 13.75 percent. Details of the applied-for capital structures and requested rates of return are shown in Tables 5-1 and 5-2 and are discussed in sections 5.1 to 5.3 of this chapter.

TQM's applied-for capitalizations for the 1991 and 1992 test years were determined in a manner consistent with the methodology approved in the

Table 5-1

Applied-For Deemed Average Capital Structure and Rates of Return for the 1991 Test Year

	Amount ($000)	Capital Structure (%)	Cost Rate (%)	Cost Component (%)
Debt - Funded	242,692	70.05	13.04	9.13
- Unfunded	17,153	4.95	12.00	.59
Total Debt Capital	259,845	75.00		9.72
Equity	86,615	25.00	14.50	3.63
Total Capitalization	346,460	100.00		
Rate of Return on Rate Base				13.35

Table 5-2

Applied-For Deemed Average Capital Structure and Rates of Return for the 1992 Test Year

	Amount ($000)	Capital Structure (%)	Cost Rate (%)	Cost Component (%)
Debt - Funded	238,692	71.68	13.04	9.35
- Unfunded	11,071	3.32	11.00	.37
Total Debt Capital	249,763	75.00		9.72
Equity	83,254	25.00	14.50	3.63
Total Capitalization	333,017	100.00		
Rate of Return on Rate Base				13.35

Board's RH-2-88 and RH-4-87 TQM Reasons for Decision; namely, (i) the funded debt components reflected the Company's expected outstanding long-term debt balances during the test years and (ii) TQM's capitalizations were equated to a projected rate base. As well, the Company's capitalizations included an unfunded debt component, as was the case in the Board's RH-4-87 TQM Reasons for Decision.

5.1 Capital Structure

TQM applied for a deemed capital structure consisting of 75 percent debt and 25 percent equity for both test years. These levels were consistent with the ratios approved in the past several TQM hearings.

While noting that the Company had not requested a change in the deemed equity ratio in its capital structure in this proceeding, TQM's expert witness reiterated his views concerning the relatively-low common equity component of 25 percent. The witness was also of the opinion that the short-term business risks of the Company had not changed since the time of the RH-2-88 proceeding.

The expert witness for the Canadian Petroleum Association ("CPA") concluded that a deemed equity component of 25 percent continued to be appropriate for TQM, noting that, in his view, such a ratio was consistent with the risks of TQM's pipeline activities. This witness also opined that there had been no change in TQM's business risk level since the Company's last toll proceeding.

Decision

The Board accepts the applied-for deemed capital structure of 75 percent debt and 25 percent equity for both test years.

5.2 Cost of Debt

5.2.1 Funded Debt

TQM's applied-for capitalizations included funded debt components of $242,692,000 and $238,692,000 for the 1991 and 1992 test years, respectively. The cost rate associated with these forecast long-term debt balances is 13.04 percent for both test years. Consistent with the Board's directive as set out in its RH-4-87 TQM Reasons for Decision, the Company utilized the gross proceeds method to calculate the funded debt components of its capitalizations, as well as the associated cost rate. Under this methodology, the funded debt cost rate is calculated by dividing the financial charges, including the yearly amortization of debt issuance expenses, by the average gross proceeds of debt outstanding.

The Company's Series A and B bonds had been outstanding since 1984. As such, the amounts of debt outstanding included in TQM's capitalizations, as well as the amounts of unamortized debt discount included in the test-year rate base for these issues, were not questioned in this proceeding. The only funded debt issue raised during the hearing related to the Company's debt re-financing which took place in November 1990. TQM re-financed its Series C bonds totalling $85 million with Series D bonds of $55 million, at a coupon rate of 12.30 percent, and a $30 million term loan costed at a rate of prime less 50 basis points. It was noted during the hearing that the Series D bond issue was handled by way of a private placement, rather than through a public issue. The Company estimated that, by proceeding in this manner, it had reduced the total issuance costs related to the Series D bonds by some $340,000.

No intervenor objected to either the applied-for test-year amounts of funded debt or the associated cost rate of 13.04 percent.

Views of the Board

The Board finds the Company's forecast of the issuance costs related to the Series D bonds to be reasonable.

Decision

The Board approves the Company's funded debt amounts of $242,692,000 and $238,692,000 for the 1991 and 1992 test years, respectively, as well as the applied-for cost rate of 13.04 percent for both test years.

5.2.2 Unfunded Debt

The unfunded debt component of TQM's utility capitalization is determined by subtracting funded debt and common equity from total capitalization.

TQM applied for unfunded debt balances of $17,153,000 and $11,071,000 for the 1991 and

1992 test years, respectively. The applied-for cost rates are 12 percent for 1991 and 11 percent for 1992. These rates reflect forecast average prime rates for the two test years, less 50 basis points (i.e. the rate applicable to the Company's term loan referenced in section 5.2.1). TQM's costing of these forecast unfunded debt balances at a rate that equates to its short-term borrowing rate is consistent with the practice outlined in the Board's RH-4-87 TQM Reasons for Decision.

To arrive at its prime rate forecasts for the test years, TQM relied on the opinions of several independent forecasters. For 1991, the forecasters provided average prime rate estimates which ranged from 11.5 percent to about 12.8 percent, with the average of all the forecasts being 12.33 percent. The forecasters estimated average prime rates ranging from 10.5 to 12.3 percent for the 1992 test year, with the average of all the forecasts being 11.28 percent. The Company rounded these average forecasts to 12.5 and 11.5 percent, respectively.

CPA's expert witness noted the significant difficulties inherent in estimating short-term interest rates. However, given that the prevailing expectation in financial markets is that short-term rates will gradually decline from current levels, and that the prime rate forecasts relied upon by TQM showed the same trend, the witness found the Company's forecast levels of prime for the test years to be reasonable. During cross-examination, it was noted that one of the major banks had recently reduced its prime rate by 25 basis points. However, while the witness believed that the other major banks would more than likely follow the same course, it did not suggest to him that any change should be made to the rates presented by TQM.

Views of the Board

In the special circumstances of TQM, the Board continues to believe that the Company's unfunded debt balances should be costed using its forecast short-term borrowing rates. In this case, the Company's cost rate for short-term borrowings is prime less 50 basis points, as set out in its term-loan agreement (filed as part of Exhibit B-14). The Board notes that the prime rate forecasts relied upon by TQM were not opposed by any party during the hearing. However, the Board also notes the magnitude by which the prime rate has declined since the close of the hearing. Given the recent decline in the level of prime and the general expectation that this administered rate will decrease further in 1991, the Board views it as unlikely that the prime rate will average 12.5 percent in 1991. The Board, having found that some adjustment should be made to the prime rate forecast for 1991 relied upon by the Company in this proceeding, has decided to utilize a prime rate of 12 percent for that test year. Accordingly, the Board approves an unfunded debt rate for 1991 of 11.5 percent (i.e. 12 percent less 50 basis points). In reaching this decision, the Board gave weight to the level of prime at the time of the hearing, to the fact that all of the independent forecasts relied upon by TQM suggested a downward trend in prime rate levels throughout 1991, and to those forecasts that suggested that the prime rate would decline over the test year by some 75 to 125 basis points. While the establishment of unfunded debt rates is fraught with difficulty given the current economic environment, the Board notes that, as a result of its decision in section 5.2.3, both the Company and the tollpayers will be protected from fluctuations in the prime rate during the test years through the implementation of a deferral account.

The recent decline in the level of prime and the current and prospective uncertainty in financial markets enhances the difficulties inherent in estimating interest rate levels for the second test year. Having said that, the Board is prepared to accept, for toll-making purposes, the applied-for unfunded debt rate for 1992 of 11 percent. While some adjustment to this rate could have been made in light of the recent decline in short-term interest rates, the Board found it difficult to estimate the magnitude of any such adjustment. In deciding to approve the applied-for rate for 1992, the Board also took into account that the amount of unfunded debt for that test year is somewhat lower than the amount approved for 1991. Further, the Board once again notes that all parties will be protected from fluctuations in the prime rate as a result of the Board approving the requested deferral account (see section 5.2.3).

As a result of adjustments made by the Board to the Company's test-year rate bases (see sections 3.2 and 3.3), the Board has adjusted the amounts of unfunded debt to be included in the test-year capitalizations.

Decision

The Board approves unfunded debt cost rates of 11.5 percent for 1991 and 11 percent for 1992. The Board also approves unfunded debt balances for the 1991 and 1992 test years of $17,117,000 and $11,052,000, respectively.

5.2.3 Unfunded Debt Interest Deferral Account

TQM applied for a deferral account in order to record the variances between the approved and actual unfunded debt cost rates during the test years. Under the Company's proposal, the following procedure would be adopted: each month, the difference between the actual average cost rate associated with the Company's unfunded debt (i.e. prime less 50 basis points) and the unfunded debt rate approved by the Board would be multiplied by the portion of rate base approved as unfunded debt; the resultant amount would then be divided by twelve in order to determine the monthly variance to be recorded in the deferral account; and carrying charges applicable on the monthly outstanding balance in the deferral account would be calculated using the approved rate of return on rate base for that period.

In support of its request for a deferral account for variations in its short-term borrowing rate, TQM noted that (i) the prime rate cannot be predicted with a high degree of accuracy; (ii) it does not have any control over the prime rate; (iii) the Company must forecast the level of its short-term borrowing rate for toll-making purposes a number of months in advance; and (iv) the differences between the approved and actual unfunded debt rates could significantly affect its rate of return on equity. In this regard, TQM noted that the Board had accepted the Company's request for a deferral account to cover variations in short-term borrowing rates in its RH-2-86 TQM Reasons for Decision. In TQM's view, a similar treatment was warranted in this case given the current and prospective volatility of short-term interest rates and the potential impact on the Company's rate of return on equity.

In his pre-filed evidence, CPA's expert witness stated that the proposed deferral account would be appropriate for the test years if it could be shown that the debt re-financing undertaken by TQM in November 1990 was the most cost-effective approach given the financing alternatives available to the Company at the time. During cross-examination, he stated his view that TQM had canvassed the plausible alternatives. In his opinion, the variable-rate, short-term financing entered into by TQM was the most cost-effective approach under the circumstances. It was also noted during the proceeding that the tollpayers had received an immediate benefit from the approach adopted by the Company in that the prime rate declined subsequent to the date of the term-loan agreement.

With respect to the appropriate carrying-charge rate, TQM noted that its request for the overall rate of return was consistent with its past practice. CPA's expert witness argued that a distinction should be made between the situations where the Company would under-recover or over-recover interest costs through tolls. In the case of under-recovery (i.e. when the Company would potentially be in the position to recover funds from the tollpayers in a future test period), he was of the view that the appropriate carrying-charge rate should be TQM's short-term borrowing rate. In the situation where TQM over-recovered monies from the tollpayers (i.e. received revenues from the tollpayers in excess of the Company's short-term debt servicing costs), he outlined two scenarios: (i) if the Company had the opportunity to reduce its short-term borrowings as a result of having excess cash available, the rate for carrying charges should be equal to the Company's short-term borrowing rate; and (ii) if TQM did not have the opportunity to reduce the outstanding balance of such short-term borrowings with the excess cash available to it, carrying charges should be calculated using the rate the Company could achieve on short-term investments.

In support of its request to use the overall rate of return, TQM countered by pointing to the simplicity of using one carrying-charge rate (as compared to CPA's approach), as well as the magnitude of the carrying charges that could potentially be calculated in this circumstance. In argument, while once again indicating that it would be simpler to use one rate, the Company stated that it could accept the approach put forward by CPA's witness if use of his methodology ensured that it would recuperate the costs associated with financing the amounts included in the deferral account.

Views of the Board

The Board acknowledges the point made by TQM that the prime rate is an administered rate and thus outside the control of the Company. As such, TQM has no control over the actual cost rate associated with the unfunded debt components of its capitalizations. Further, the Board recognizes the difficulties inherent in forecasting short-term interest rates, especially in light of the current and prospective state of financial markets. In this regard, the evidence indicated that the prime rate is expected to decline over the next two years and the Company was prepared to rely on the prime rate forecasts presented during the hearing for setting tolls; however, it was also noted that the actual levels of prime in the test years could be quite different than the rates estimated by the independent forecasters.

The Board notes the Company's stated intention to request a deferral account only in cases where there is a significant cost item that is beyond its control. In this regard, TQM pointed to the fact that it did not request a deferral account relating to its prefunded debt components in the RH-2-88 TQM proceeding because of the relatively small amounts involved. In this case, the Board finds that the amounts of unfunded debt included in the capitalizations are significant enough to warrant a deferral account of the type suggested by TQM. Given the uncertainty surrounding prospective short-term interest rate levels and the fact that the Company's actual unfunded debt rates for the test years, which are tied to the prime rate, are outside its control, the Board is prepared to accept the applied-for deferral account to capture variations between approved and actual unfunded debt rate levels.

With respect to the appropriate rate for carrying charges, the Board views the approach outlined by CPA's witness as having some merit. However, the Board agrees with TQM that the use of one carrying-charge rate would simplify the requisite calculations. The Board also agrees with TQM that the potential magnitude of the carrying charges that would be calculated over the test years, no matter what carrying-charge rate is used, would be of such a relatively small size as not to warrant drawing a distinction between the cases where TQM either under-recovers or over-recovers monies. Accordingly, the Board finds TQM's request to use the overall rate of return to be reasonable under the circumstances.

Decision

The Board approves TQM's request for a deferral account to capture the variance between the approved and actual cost rates of unfunded debt, and accepts the methodology detailed by the Company during the proceeding. The Board directs TQM to calculate carrying charges on amounts included in the deferral account using the approved rate of return on rate base for the 1991 and 1992 test years.

5.3 Rate of Return on Equity

TQM applied for a rate of return on equity of 14.50 percent for both test years. The Company found support for this rate from the evidence provided by its expert witness, who relied on comparable earnings, risk premium and discounted cash flow ("DCF") techniques. (See Appendix II for a summary of the test results and final recommendations of TQM's expert witness, as well as those of CPA's expert witness.)

TQM's witness originally applied the comparable earnings technique to a sample of 22 low-risk industrials, noting that the average return for these companies for the ten-year period 1979 to 1988 was 13.73 percent. He estimated that this rate was upward-biased by some 50 basis points given that it did not reflect the lower corporate profits expected to prevail in the years 1989 to 1991. At the time of his appearance at the hearing, the witness updated his comparable earnings data and found that the comparable earnings approach, when applied to his revised sample of 27 low-risk industrials, resulted in a rate of 12.96 percent. Given that the revised data was determined in reference to the ten-year period 1980 to 1989, thus excluding the years 1990 and 1991, the witness was of the view that this result was also somewhat upward-biased. As in the case of the RH-2-88 TQM proceeding, the witness gave relatively little weight to this approach, employing only one comparable earnings analysis compared to six market-based analyses (in the previous proceeding he performed one comparable earnings analysis and ten market-based analyses).

TQM's expert witness performed three risk premium analyses, the first being in reference to a sample of six telephone utilities which he viewed as being of lower risk than TQM given their A to A+ bond ratings. His analysis indicated that the

risk premium for telephone companies rated A+ was, on average, 3.73 percentage points for the years 1980 to 1989 and 3.12 percentage points for the period 1984 to 1989. Given that the latter period was more stable, and thus more representative of current conditions, the witness relied on the observed risk premium of 3.12 percentage points. To this risk premium, the witness added the cost of long-term debt applicable to TQM at the time he prepared his original evidence, namely 12.25 percent. This cost rate of long-term debt was based on a long-term Government of Canada bond ("long-Canada") rate of 11 percent and an implicit corporate issuance spread of 125 basis points. He viewed the resultant risk premium rate of 15.37 percent as being conservative given his risk assessment of TQM relative to the sample. At the time of the hearing, the witness noted that the long-Canada rate had decreased to 10.7 percent; however, the witness did not update this particular risk premium result because, while long-Canada rates had declined somewhat, corporate issuance spreads had widened since the preparation of his original evidence.

With respect to the second risk premium approach utilized by TQM's witness, namely the capital asset pricing model ("CAPM"), the witness used a long-Canada rate of 10.7 percent. He also concluded that the market risk premium above long-Canadas was in the range of 6 to 8 percentage points. This risk premium range, together with a revised adjustment factor of .57 to take into account the lower risk of TQM relative to the average-risk stock, resulted in an equity risk premium range for TQM of 3.42 to 4.56 percentage points. This range, added to a long-Canada rate of 10.7 percent, provided a CAPM range of 14.12 to 15.26 percent. Thirty basis points for flotation costs were added to the midpoint of this range (14.69 percent), resulting in a final CAPM result of 14.99 percent. While employing this rate in reaching his final rate of return on equity recommendation, he did concede that the equity risk premium for the market as a whole was more than likely at the bottom end of the 6 to 8 percentage point range.

In contrast to his appearance in the RH-2-88 TQM proceeding, the witness employed an empirical CAPM ("ECAPM") technique. This methodology softens some of the more stringent assumptions of the CAPM approach. The witness found the basic ECAPM results to be in the range of 14.77 to 16.12 percent, with a midpoint of 15.44 percent. Adding 30 basis points to this rate for flotation costs, as in the case of the CAPM approach, produced a final ECAPM result of 15.74 percent.

As in the RH-2-88 TQM proceeding, TQM's witness performed his DCF analysis in relation to two relatively-small utility samples and a group of low-risk industrials. However, he voiced concerns about the use of the DCF approach under current circumstances, as well as the small size of his utility samples. In particular, he noted the scarcity of publicly-traded Canadian utilities and the fact that corporate takeovers and reorganizations have become more prevalent in the gas industry in recent years. The witness' first DCF analysis was done in relation to a sample of five energy utilities. Relying on recent dividend yields and ten-year growth rates in dividends and earnings experienced by his sample companies, the witness concluded that the cost of equity for his energy utilities, after adjustment for flotation costs, was 14.32 percent. The witness relied on ten-year growth data given that the use of a longer time period was more consistent with the underlying principles of the DCF model. In this regard, he was of the view that the inflation rates experienced over the most-recent ten-year period were representative of the rates expected prospectively by investors.

In his DCF analysis in relation to a sample of five relatively-undiversified telephone utilities, the witness again relied on ten-year growth rates in earnings and dividends and adjusted for flotation costs; the result was a DCF range of 12.43 to 13.44 percent. Taking into account his view that (i) the lower end of this range was downward-biased given the recent earnings performance of the unregulated segments of certain of the telephone companies in his sample and (ii) the sample of telephone companies was, as a group, less risky than TQM, the witness focussed on the upper end of the range.

With respect to his low-risk industrial sample, the witness initially determined DCF results relative to a group of 17 companies. However, given his view that the results emanating from this sample would probably be unreliable, he expanded his sample to include 36 low-risk industrials. Data for these companies suggested that the cost of equity was in the range of 13.37 to 13.77 percent; the witness relied on the midpoint of this range (13.57 percent) in arriving at his final rate of return on equity recommendation.

TQM's witness opined that more weight should be given to market-based test results in arriving at his final rate of return recommendation; however, he did not believe it was appropriate to rely on any one approach. Accordingly, he determined the average return value of all seven of the cost estimation techniques he employed in his evidence, the result being a rate of return on equity of 14.34 percent. In an attempt to ensure that his final recommendation was not tainted by test results that could be considered as being outside what one would consider as a reasonable range, he removed the high (ECAPM) and low (comparable earnings) test results from the calculation of the average return. Having done so, the witness again calculated the average return to be 14.34 percent. He concluded that an equity return range of 14.25 to 14.5 percent was reasonable for the test years. However, in light of recent developments in financial markets, the witness emphasized the lower end of the range for the 1991 test year. For 1992, he focussed on the upper end of the range given his expectation of economic recovery and growth, which is typically accompanied by an increase in long-term interest rates. In contrast, TQM argued that it was appropriate to focus on the upper end of the range for both test years despite the declines in long-term interest rates that were experienced at the time of the hearing. TQM cited the uncertainties arising as a result of, among other things, the crisis in the Persian Gulf as providing support for focussing on the upper end of the range suggested by its expert witness.

CPA recommended a rate of return on equity at the lower end of the range of 13.125 to 13.375 percent for both test years. The decision to focus on the lower end of the range was supported by the evidence of CPA's expert witness, who employed the DCF and equity risk premium cost estimation techniques in arriving at his final recommendations.

As in past proceedings, CPA's expert witness relied on two market-based tests in arriving at his final rate of return on equity recommendation. With respect to the first market-based test, namely the DCF approach, he determined the investors' required rate of return for a sample of 20 low-risk non-utilities to be 12.5 percent. The dividend yield associated with his sample companies was 3.4 percent. Consequently, the growth rate implicit in his investors' required rate of return estimate for non-utilities was 9.1 percent. The witness proceeded to perform an analysis which attempted to quantify the downward adjustment required to his investors' required rate of return of 12.5 percent in order to reflect the lower risk of pure utilities relative to his low-risk sample. He concluded that the requisite adjustment was in the range of 50 to 70 basis points. A downward adjustment of this magnitude resulted in an investors' required rate of return of approximately 11.75 to 12 percent. The witness focussed on the upper end of this range in reaching his final recommendation, given the uncertainty prevailing in financial markets at the time he filed his evidence.

Consistent with his evidence at the previous TQM toll proceeding, CPA's witness continued to give primary weight to the most recent five-year growth rates of his sample companies. However, he also gave weight to the growth rates achieved over the most recent eight-year period for those same companies. In this regard, he noted that the inflation rates experienced over the past eight years are, in his view, comparable to the prospective inflation rate levels expected by investors over the longer term. In his opinion, little or no weight should be given to ten-year growth data given that the inflation rate levels experienced in the early portion of the most recent ten-year period were considerably different from the longer-run levels expected by investors.

The second market-based test employed by CPA's witness was the equity risk premium approach. In his pre-filed evidence, the witness employed a long-Canada rate of 11 percent, this being relatively close to the rate prevailing at the time he prepared his evidence. To this rate he added his estimate of the risk premium currently required by investors in pure utilities; he found the risk premium for such investments to be in the range of 1.5 to 2.1 percentage points. In arriving at this risk premium range, he adjusted his basic market risk premium results downward for factors relating to the differential between achieved and expected bond returns, the purchasing power (or "lock-in") risk premium inherent in long-term interest rates and the lower risk of pure utilities relative to an average-risk stock. The resultant equity risk premium range was 12.5 to 13.1 percent. For the same reasons outlined in relation to his DCF analysis, the witness focussed on the upper end of this range. Using the approximate midpoint of the range resulting from focussing on the upper end of his initial DCF and risk premium ranges, the

witness concluded that the investors' required rate of return was 12.5 to 12.75 percent. To this range, the witness added 25 basis points for what he saw as the unique risks of TQM relative to TransCanada. Allowing for the recent and prospective volatility in interest rates and the need for a margin of safety in his final result, the witness originally concluded that 13.125 to 13.375 percent represented a fair rate of return for the test years.

At the time of the hearing, CPA's witness noted that long-Canada rates had decreased by about 90 basis points from the time he had prepared his pre-filed testimony. While not formally updating his equity risk premium results, he noted that the recent decline in long-term interest rates would have the effect of reducing the investors' required rate of return by approximately 50 basis points. The witness' DCF results had remained essentially unchanged. Taking into account, among other things, the recent changes in interest rate levels, the witness decided to focus on the lower end of his recommended equity return range of 13.125 to 13.375 percent for both test years. He saw no need to recommend a different rate of return on equity level for the second test year, given his view that financial market participants are not expecting long-term interest rates in 1992 to be materially different from the levels currently being experienced and those levels expected for 1991. In making this prediction concerning interest rate levels, the witness assumed an easing of tensions in the Persian Gulf.

A major area of discussion during the proceeding centred on the utilization by CPA's witness of a market risk premium determined on the basis of a geometric, rather than arithmetic, average. The underlying theme of the theoretical examples cited by TQM was that arithmetic means should be used if one is attempting to use past returns as a benchmark for estimating current opportunity costs of capital, whereas geometric means should be used if one is attempting to assess the performance of stocks and/or bonds over a long period of time. TQM's expert witness was of the view that the former should be used in the determination of the risk premium. While accepting that what one is attempting to do in this process is use historical data as a benchmark for estimating opportunity costs of capital, CPA's witness was of the view that it was not appropriate to use arithmetic means in the context of utility regulation. In his opinion, it is important to first note that one is attempting to establish the risk premium between utility stocks and bonds, both of which are financing instruments entailing a long-term commitment of funds. Given the long-term nature of these commitments, the investors' ending position of wealth is also a relevant consideration, thus making it more appropriate, in his view, to use geometric means. While use of arithmetic means might be appropriate in a case where the differential between anticipated and achieved rates of return was significant, CPA's witness believed that such differentials were insignificant in the context of Canadian utilities. This witness also opined that the potential negative implications of using the geometric mean in this context are somewhat ameliorated given that the fair rate of return includes an amount over and above the investors' required rate of return.

Views of the Board

The Board gave some weight to the results of each of the cost estimation techniques employed in this proceeding. However, after taking into account its concerns relating to the application of the various approaches used by the expert witnesses, the Board, in reaching its decision on a fair and reasonable rate of return on equity for TQM, gave the various risk premium approaches somewhat greater weight.

The risk premium approaches presented during the hearing drew the most attention. The principal topic of discussion centred on whether the market risk premium should be based on an arithmetic or geometric mean. While certain of the arguments put forward by CPA's witness have some merit in the context of utility regulation, the Board was not thoroughly convinced, in this case, that geometric means should be used. However, the Board notes that TQM's witness, who utilized the more theoretically-valid arithmetic mean value of the equity risk premium, conceded that the market risk premium was at the low end of the range suggested by his analysis, namely, 6 percentage points. Further, CPA's witness, who used geometric average values for the market risk premium, found such premiums to be 5.7 to 5.9 percentage points prior to adjustment. The Board finds that market risk premiums in this order of magnitude are a reasonable point of departure. The Board expects that the merits and drawbacks of each of these approaches will be addressed in future toll proceedings; in particular, the Board would expect any analyses presented on

this topic to examine the significance of the differential between expected and achieved equity returns in a utility context.

As noted earlier, CPA's witness reduced the market risk premium for factors relating to the differential between achieved and expected bond returns and the "lock-in" premium inherent in long-term interest rates. The Board agrees that some downward adjustment should be made to the basic market risk premium for these factors. However, the Board shares TQM's concerns that adjustments for the impact of unexpected inflation on bond investments are, in effect, being made twice by the witness. In this regard, the Board views the lower end of this witness' market risk premium range (3 percentage points) as being clearly outside the reasonable range.

The Board notes that limited evidence was filed during the proceeding concerning the estimated level of long-Canada rates for the test years. Based on the evidence presented during the hearing, an *average* long-Canada rate in the range of 10 to 10.25 percent appears to be reasonable for use in the various risk premium analyses performed by the expert witnesses. In reaching this conclusion, the Board gave weight to the recent trend in long-term interest rates and the evidence that suggested that long-term interest rates in 1991, on average, will not be materially different than their current levels. The need to rely on a rate different from this range in the context of the second test year was not adequately adduced in the proceeding. The Board believes that, under current and prospective financial market conditions, expectations are that long-Canada rates would more than likely be at the low end of this range. However, the Board is cognizant of the current uncertainty surrounding events in the Persian Gulf and the potential effect this might have on long-term interest rates. Under these circumstances, the Board has decided to employ an *average* long-Canada rate of 10.25 percent in the context of the risk premium approach. Accordingly, the Board finds the results of the three risk premium approaches used by TQM's witness to be overstated.

The Board notes that only TQM's witness utilized the comparable earnings technique in this proceeding, and that, in the end, he placed no reliance on the results obtained from this approach. The Board also notes that the witness, even after updating his comparable earnings data to take into account earned returns for his sample companies for 1989, considered his final result of 12.96 percent to be somewhat upward-biased. The Board gave the witness' comparable earnings result little weight in reaching its final decision in this matter given that the observed result was clearly inadequate.

The Board, while acknowledging that the DCF formula theoretically requires the use of a long-term growth rate, was persuaded that the five-year and eight-year growth data presented by CPA's witness were more representative of future expectations than were the ten-year growth levels relied upon by TQM's witness. In this regard, the Board believes that the ten-year growth data are somewhat distorted as a result of the effects of high and volatile levels of inflation in the early years of that cycle. The Board was also not persuaded by the statements made by CPA's expert witness to the effect that his growth rate estimates could potentially be overstated. Further, the Board placed little reliance on the utility-related results relied upon by TQM's witness, given the problems inherent in assessing the reasonableness and reliability of data derived from such relatively small samples, as well as its concerns with the possible circularity of reasoning involved.

Having adjusted the results of the cost estimation techniques presented by the expert witnesses for its various concerns, the Board is of the view that no change in the approved rate of return on equity is warranted, and that no distinction between the return levels of the two test years is required. In this regard, the Board notes that the long-Canada rate it has relied on in this proceeding is only slightly higher than the rate that was expected to prevail for the years 1989 and 1990 at the time of the RH-2-88 TQM proceeding and that this slight increase has been taken into account in its assessment of the risk premium analyses presented in this proceeding. Further, the Board gave weight to the evidence presented during the hearing which suggested that the average long-term interest rates during 1992 are not expected to vary significantly from the average levels anticipated for 1991.

Decision

The Board finds that a rate of return on common equity of 13.75 percent is fair and reasonable for both test years.

5.4 Rate of Return on Rate Base

Decision

The Board approves rates of return on rate base of 13.15 percent for 1991 and 13.16 percent for 1992. The approved capital structures and overall rates of return are shown in Tables 5-3 and 5-4.

5.5 Income Taxes

5.5.1 Large Corporations Tax

On 12 July 1989, the Board approved TQM's request for an LCT deferral account, as well as carrying charges on the accumulating balance. At that time the Board found TQM's request reasonable because its tolls were fixed for the balance of 1989 and 1990, yet the Company would be liable for the LCT as of 1 July 1989. In the current application, TQM sought to recover in the 1991 test year the balance at 31 December 1990 in the LCT deferral account, including associated carrying charges calculated at the approved 1990 rate of return on rate base of 13.11 percent. The Company also proposed to include the average unamortized balance in the 1991 test-year rate base.

The LCT is determined by multiplying the tax rate times the corporation's capitalization, after deducting an exemption amount. In determining

Table 5-3

Approved Deemed Average Capital Structure and Rates of Return for 1991

	Amount ($000)	Capital Structure (%)	Cost Rate (%)	Cost Component (%)
Debt - Funded	242,692	70.06	13.04	9.14
- Unfunded	17,117	4.94	11.50	.57
Total Debt Capital	259,809	75.00		9.71
Equity	86,603	25.00	**13.75**	3.44
Total Capitalization	**346,412**	**100.00**		
Rate of Return on Rate Base				**13.15**

Table 5-4

Approved Deemed Average Capital Structure and Rates of Return for 1992

	Amount ($000)	Capital Structure (%)	Cost Rate (%)	Cost Component (%)
Debt - Funded	238,692	71.68	13.04	9.35
- Unfunded	11,052	3.32	11.00	.37
Total Debt Capital	249,744	75.00		9.72
Equity	83,248	25.00	**13.75**	3.44
Total Capitalization	**332,992**	**100.00**		
Rate of Return on Rate Base				**13.16**

its capitalization for purposes of calculating the LCT, TQM included the net cost of assets that the Board had disallowed in prior years for toll purposes. The disallowed costs were identified by the Board in its RH-4-82 TQM Reasons for Decision as the "Tax Benefit on Sponsors' Development Costs" and shown under NEB Account 403 - Other Franchises and Consents. TQM submitted that, since payment to Revenue Canada would be based on the Company's total taxable capital, it was reasonable to include those costs in determining its cost of service. The Company argued that TransCanada and NOVA were liable for the LCT on TQM's total capitalization; accordingly, the full amount of the LCT should be recovered in the cost of service.

No intervenors commented on this issue.

Views of the Board

In the Board's view, where it has previously disallowed capital costs of facilities from being reflected in the revenue requirement of pipelines under the Board's jurisdiction, it is not reasonable to allow in revenue requirements of future periods any costs or expenses that subsequently arise because of continuing ownership of those facilities.

Decision

The Board has decided that costs associated with previously disallowed facilities should be excluded from the calculation of the LCT to be included in revenue requirement. The Board approves TQM's request to include in revenue requirement, as part of income tax expense, the balance at 31 December 1990 in its LCT deferral account with applicable carrying charges (see Table 5-5), as well as the inclusion in rate base of the unamortized balance of the LCT deferral account (see Chapter 3).

5.5.2 Filing Requirements

In its RH-4-83 TQM Reasons for Decision, the Board required TQM to file by 31 July of each year certain schedules showing data related to income tax for both itself and its partners regarding tax losses carried forward, so that the Board might

Table 5-5

Approved Taxable Capital and Large Corporations Tax
($000)

	1989	1990	1991	1992
Taxable Capital per TQM	388,759	377,519	358,169	344,493
Less: Cost Disallowed by NEB	11,577	10,821	10,069	9,309
Taxable Capital per NEB	377,182	366,698	348,100	335,184
Less: Basic Capital Deduction	10,000	10,000	10,000	10,000
Taxable Capital Base	**367,182**	**356,698**	**338,100**	**325,184**
Tax thereon at 0.175%	**643**	**624**		
(1/2 for 1989)	**322**			
Tax thereon at 0.200%			**676**	**650**
Carrying Charges on 1990 LCT at 13.11%			**75**	

have the information necessary to confirm the appropriateness of the income tax calculations. In the years prior to 1991, this was deemed necessary because toll applications did not show updated details of income tax loss carry-forward balances since no tax provision was applicable. Since a provision for taxes is now required for 1991 and subsequent years, details of tax calculations will now be provided in toll applications as a matter of course.

Decision

The Board rescinds its requirement for TQM to file the income tax schedules required in the RH-4-83 TQM Reasons for Decision.

5.5.3 Flow-Through Tax Calculation

The Board decided in its RH-4-82 TQM Reasons for Decision that TQM's income tax provision should be calculated on a flow-through basis. However, TQM's revenue requirement has not reflected an income tax provision until now because of available income tax losses carried forward for toll-making purposes.

TQM included provisions for income taxes of $7,017,000 for 1991 and $10,388,000 for 1992 in its applied-for revenue requirements. Since decisions described in these Reasons affect the Company's calculation of those provisions, the Board has recalculated them. The revised provisions are shown in Table 5-6.

Decision

The Board has adjusted the 1991 and 1992 flow-through income tax provisions from $7,017,000 to $6,344,000 and $10,388,000 to $9,841,000, respectively, a reduction of $673,000 and $547,000 to reflect the decisions included in this report (see Table 5-6).

Table 5-6

Approved Utility Income Tax Allowances for the 1991 and 1992 Test Years
($000)

		1991	1992
Utility Income after Tax [1]		11,917	11,455
Add:	Depreciation	13,212	13,212
	Hearing Costs	117	117
	Account 0417 Meals and Lodging	86	89
	Account 5822 Social Activities	52	54
	LCT [2]	676	650
	Amortization of LCT (1989-90)[2]	946	-
		27,006	25,577
Deduct:	Capital Cost Allowance	14,290	13,299
	80% of Account 0417	69	71
	80% of Account 5822	42	43
		14,401	13,413
Taxable Income		12,605	12,164
Deduct:	Capital Losses Carried Forward	6,455	-
Taxable Income, as Adjusted		**6,150**	**12,164**
Taxes at 0.43038/(1-0.43038)		4,647	9,191
Add:	Recovery of LCT	1,622	650
	Carrying Charges on LCT for 1990	75	-
Utility Income Tax Allowance, as Adjusted		**6,344**	**9,841**

1 Equals weighted average cost of equity multiplied by approved average rate base (1991: 3.44% x $346,412; 1992: 3.44% x $332,992).

2 Revised to reflect the Board's decision in section 5.5.1.

Chapter 6

Operating Costs

6.1 Operating and Maintenance Expenses

6.1.1 Inflation Escalation

TQM estimated its O&M expenses other than salaries and wages for the 1991 and 1992 test years by first adjusting the base-period amounts for projected changes in activity and then escalating the result by its forecast rates of inflation. From the base period (i.e. 12 months ended 31 March 1990) to the 1991 test year, TQM used a compounded escalation rate of 9.9 percent, being 3.6 percent for the last three quarters of 1990 (i.e. 3/4 of the annual rate of 4.9 percent) and 6.1 percent for 1991. The result was then inflated by 4.2 percent to estimate the 1992 amounts. In support of its inflation escalation factors, TQM relied on the Consumer Price Index ("CPI") inflation rate forecasts made by independent forecasters including the Conference Board of Canada and WEFA Group.

None of the intervenors commented on this issue.

Views of the Board

The Board considers that the evidence supports the use of TQM's applied-for inflation escalator of 3.6 percent for the last three quarters of 1990. However, TQM's estimates for 1991 and 1992 did not reflect the effect of the removal of the Federal Sales Tax ("FST") and the introduction of the Goods and Services Tax ("GST"), effective 1 January 1991. This issue is more fully detailed in section 6.1.2. The Board has concluded that the use of a 5 percent escalation rate for 1991 would be a reasonable way to reflect the refund of GST in the test years. The effect of this adjustment is to reduce TQM's applied-for O&M expenses as demonstrated in Table 6-1.

Table 6-1

1991 Inflation Factor Adjustment To O&M Expenses
($000)

Total Requested 1991 O&M Expenses	6,603
Less: Salaries	2,916
Employee Benefits	583
1991 O&M Expenses Subject to Inflation Adjustment	3,104
1991 Adjustments	
1.1 Percent Adjustment ((0.061-0.050) x 3,104)	(34)
Total 1991 Adjustment	**(34)**
1992 Adjustments	
1992 Inflation of the 1991 Adjustment (0.042 x 34)	(1)
Total 1992 Adjustment	**(35)**

Decision

The Board accepts TQM's applied-for inflation escalator of 3.6 percent for the last three quarters of 1990, but has decided to approve an escalation factor of 5 percent for 1991. The 5 percent rate, as explained in section 6.1.2, removes the impact of the GST from the CPI inflation rate forecasts for 1991. For 1992, the Board accepts the requested escalation rate of 4.2 percent.

The effect of the Board's decisions is to reduce the applied-for O&M expenses for the 1991 and 1992 test years by $34,000 and $35,000, respectively.

6.1.2 Federal Sales Tax and Goods and Services Tax

In response to a Board information request, the Company noted two effects of the proposed introduction on 1 January 1991 of the GST, namely, the removal of the FST on manufactured goods and the charging of the GST on virtually all goods and services. TQM commented on the limited effect of removing the FST from the costs of service for the two test years, citing the minimal construction planned for the test years and the narrow scope of the FST as it applied to its O&M costs. In forecasting its O&M costs, the Company applied an inflation factor which, in its view, reflected the effect of these tax changes. TQM also adjusted its forecast of working capital to reflect the effect on its cash flow resulting from the lag in receipt and payment of the GST.

Intervenors did not comment on this issue.

Views of the Board

Estimates available to the Board indicate that the GST will affect the 1991 inflation rate measured in terms of the CPI by between one and two percentage points. The Board notes also that, unlike ultimate consumers, corporations such as TQM will be reimbursed for the GST paid on goods and services procured. Thus, while TQM's cost of materials and supplies will reflect the removal of the FST, it will also feel no net effect of the GST on those costs. Accordingly, TQM's O&M expenses should escalate at a rate lower than the rate of inflation experienced by an ultimate consumer.

Decision

The Board has decided that, in estimating O&M expenses for 1991, it would be appropriate to first deduct the FST from the 1990 base-year expenses before escalating the remainder using a GST-reduced CPI inflation rate.

The Board, after having reviewed those expenses, considers it reasonable to effect a deduction of $75,000 for this purpose in the 1990 base-year expenses. Table 6-2 shows the adjustments to the 1991 and 1992 test-year costs of service resulting from these decisions.

Table 6-2

Effect on 1991 and 1992 Test-Year Costs of Service of Removal of FST from 1990 Base-Year O&M Expenses
($)

	1990	1991	1992
FST Removal	75,000	77,700	81,600
Inflation Factor	3.6%	5%	4.2%
Total Adjustment	**77,700**	**81,600**	**85,000**

6.1.3 Salaries and Wages

From the base period to the 1991 test year, the Company proposed an overall increase of 12.4 percent. This overall increase was based on the use of rates of 4.5 percent as a general economic increase and 0.4 percent for merit and promotions for the last three quarters of 1990; and, for 1991, rates of 7 percent as a general economic increase and 0.5 percent for merit and promotions. For the 1992 test year TQM proposed a general economic increase of 6.5 percent plus 0.5 percent for promotions and re-classifications. For temporary employees, TQM proposed an increase of 6.0 percent for each of the test years. In support of its request, TQM provided written testimony from its consultant on payroll compensation.

TQM's consultant concluded that the Company's salaries in 1989 were competitive in the marketplace. In 1990, the Company increased its salary structure by 5.0 percent, and its overall salary budget by 6.0 percent with an additional budget increase of 0.51 percent for promotions. Although the 1990 increase implemented by the Company was significantly above the overall escalation rate of 4.5 percent approved by the Board in its RH-2-88 TQM Reasons for Decision, the consultant concluded that it was in line with the market.

For the 1991 and 1992 test years, the consultant expected the salary market to move at least at the annual rate of inflation and salary budgets to provide for an additional 1 percent of payroll for merit and progression within ranges and 0.5 percent of payroll for promotion in each year. Based on a number of forecasts, he estimated infla-

tion rates of 6.0 percent and 5.5 percent for 1991 and 1992, respectively, and recommended salary budget increases of 7.0 percent for 1991 and 6.5 percent for 1992, plus 0.5 percent for promotions in both years. The consultant noted that, in the past, the Board had approved payroll escalation, including promotions, equal to the expected changes in the cost-of-living index. However, over the past several years, while the average industrial wage had increased just less than the CPI, the average salary increase in the labour market in which TQM competes had exceeded CPI by 0.5 to 1.0 percent over the same period. The consultant stated that limiting payroll increases to the CPI increase meant that no funds were available for promotions and meritorious performance other than those resulting from turnover or downsizing. Since turnover was low and further downsizing was not expected, such sources of funds were absent and, therefore, an amount in excess of the year-over-year range movement was needed to recognize merit increases and promotions.

The consultant noted that collective agreements, many of which had been negotiated in the public sector, were settled at an average rate approaching 7 percent; this did not include an amount for within-range progression and promotions. He mentioned that a number of agreements included specific protection against cost increases expected from the GST.

No intervenor commented on this issue.

Views of the Board

The Board has considered the salary and wage escalation factors previously approved for 1990 for TQM and other companies, the actual increase implemented by the Company, salary and wage settlements and the increase in the CPI inflation rate for the year. It has concluded that the increase granted by TQM in 1990 was somewhat excessive. The Board has decided that, for 1990, an escalation rate of 5.5 percent is a reasonable rate to be used in determining the appropriate base for escalation over the two test years.

For 1991, given the recent consensus forecasts for inflation rates, recent wage settlements extending into 1991, and recent surveys on the compensation outlook for 1991, the Board has concluded that a salary escalation factor, inclusive of progression, promotions and re-classifications, of 6.0 percent is reasonable.

For 1992, the Board believes that an all-inclusive escalation rate of 4.5 percent is reasonable. This rate is just over the forecast rate of inflation of 4.2 percent used by the Company to estimate its O&M expenses for 1992.

Decision

The Board approves an escalation factor of 6.0 percent for the 1991 test year and of 4.5 percent for the 1992 test year. For the purposes of adjustment, the Board approves an escalation rate of 5.5 percent for 1990.

The effect of these decisions is to reduce the provision for TQM's salaries by $59,000 in 1991 and $131,000 in 1992.

6.1.4 Employee Benefits

TQM estimates the test-year cost of each benefit separately. In respect of the pension plan, TQM stated that it had reduced the averaging period for pension calculations from 60 months to 36 months of an employee's earnings. However, given the current level of pension contribution and plan funding, TQM did not seek any increase in contributions as a result of this change for the 1991 or 1992 test-year costs of service. The Company stated that actuarial estimates of the annual cost and the increase in the pension liability as a result of the change amounted to $6,700 and $40,100, respectively. TQM's consultant on compensation reported that, in two surveys, the averaging period was five years. However, TQM stated that it implemented the change to 36 months to address human resource issues such as the desirability of being in line with its parent companies, to attract new expertise and technical skills and to provide experienced employees with an incentive to continue working for the Company.

None of the intervenors commented on this issue.

Views of the Board

The Board notes that there are no additional costs in the two test years from this change in the pension plan. The Board is however of the view that any increase in cost of contributions resulting from this change should be reviewed in a future toll proceeding.

Decision

The Board requires TQM to specify in its next toll application the effect of this change in the pension plan on the cost of service.

6.1.5 O&M Expense Summary

Table 6-3 summarizes the adjustments made by the Board to TQM's requested O&M expense amounts. These adjustments are explained in the preceding sections of this chapter.

Table 6-3

Summary of O&M Adjustments
($000)

	1991	1992
Total O&M Expenses - requested	6,603	7,061
Adjustments:		
Inflation Escalation	(34)	(35)
FST Removal	(82)	(85)
Salaries and Wages	(59)	(131)
Rounding	2	2
Total Adjustments	(173)	(249)
Total O&M Expenses - approved	**6,430**	**6,812**

6.2 NEB Cost Recovery

TQM requested approval of its proposal to set up a deferral account in which it would record any differences between its forecast of the charges to be made pursuant to the *National Energy Board Cost Recovery Regulations* and the actual amounts payable, together with carrying charges to apply on the monthly outstanding balance at the rate of return on rate base applicable during the two test years. The Company further proposed that the amounts accrued in the deferral account be disposed of at the Company's next toll hearing.

No intervenor commented on this issue.

Views of the Board

TQM has no experience at this time on which to accurately set an estimate of the amount to be payable under these new regulations. Accordingly, the Board considers the Company's request to be reasonable.

Decision

The Board approves the setting up of a deferral account in which will be recorded the differences between forecast and actual NEB Cost Recovery charges together with carrying charges applicable on the monthly outstanding balances at the rate of return on rate base.

6.3 Storage Revenue

On 17 April 1990, the Board issued Order XGM-5-90 which authorized TQM to build storage gas delivery/receipt facilities at Pointe-du-Lac in 1990. At the same time, it approved TQM's request to allow it to set up a deferral account in which it would record the Company's investment cost associated with the construction, as well as the related revenues, along with carrying charges.

In the current toll application, TQM proposed that the amounts accrued in the deferral account, $6,300, be absorbed into the storage revenue component of the 1991 revenue requirement.

No intervenor commented on this issue.

Views of the Board

The Board finds that absorption of the stated amount in the 1991 test-year revenue requirement will not significantly affect the toll to result from these proceedings.

Decision

The Board agrees with the Company's proposal to include the $6,300 balance in the storage revenue component of TQM's 1991 revenue requirement.

Chapter 7

Tariff Matters

TQM applied for tolls of $6,320,000 and $6,498,000, respectively, for the 1991 and 1992 test years. The Company determined these tolls in conformity with the fixed-toll method of regulation established by the Board in TQM's first toll case in 1983. The monthly toll proposed by TQM is one-twelfth of the revenue requirements for the test years. The requested and approved revenue requirements for the 1991 and 1992 test years are shown in these Reasons for Decision in Tables 2-1 and 2-2, respectively.

Views of the Board

As in previous decisions, the Board considers the fixed-toll methodology to be appropriate for TQM. The Board has adjusted various components of the Company's requested revenue requirements, as described in preceding chapters of these Reasons for Decision. Total approved revenue requirements of $74,295,000 for 1991 and $76,544,000 for 1992 have resulted from these proceedings.

Decision

The Board approves monthly tolls of $6,191,000 for 1991 and $6,379,000 for 1992.

Disposition

The foregoing chapters, together with Board Order TG-3-91, constitute our Reasons for Decision and our Decision on this matter.

C. Bélanger
Presiding Member

R. Priddle
Member

A. Côté-Verhaaf
Member

Ottawa, Canada
February 1991

ORDER TG-3-91

IN THE MATTER OF the *National Energy Board Act* ("the Act") and the Regulations made thereunder;

AND IN THE MATTER OF an application by Trans Québec & Maritimes Pipeline Inc. ("TQM") for certain orders respecting tolls and tariffs made under sections 59, 60 and 65 of the Act filed with the National Energy Board ("the Board") under File No. 1562-T28-9.

BEFORE the Board on 4 February 1991.

WHEREAS by application dated 17 July 1990, as revised, TQM sought approval by the Board, effective 1 January 1991 and 1 January 1992, of fixed transportation tolls for transmission of natural gas through its pipeline facilities;

AND WHEREAS by Order TG-10-88, dated 12 December 1988, the Board ordered TQM to charge, in respect of the transportation service provided to TransCanada PipeLines Limited ("TransCanada"), a monthly toll for the 1989 test year of $6.886 million commencing 1 January 1989 and for the 1990 test year of $5.776 million commencing 1 January 1990;

AND WHEREAS by Order TGI-6-90, dated 17 December 1990, the Board ordered that, effective 1 January 1991, the toll established by Order TG-10-88 be charged on an interim basis until the day before the Board's final order on TQM's application comes into effect;

AND WHEREAS pursuant to Order RH-2-90 the Board examined and heard the written and oral evidence of TQM and all interested parties with respect to the said application;

THEREFORE IT IS ORDERED THAT:

1. For accounting, toll-making and tariff purposes, TQM shall implement procedures conforming to the Board's decisions outlined in the RH-2-90 Reasons for Decision and with this Order.

2. The tolls set on an interim basis by the Board's Order TGI-6-90 which were in effect for the period extending from 1 January 1991 to 31 March 1991 are final.

3. TQM shall charge, in respect of its transportation service provided to TransCanada, a monthly toll of $6.191 million for services rendered after 31 March 1991 and a monthly toll of $6.379 million commencing 1 January 1992.

4. TQM shall recover from TransCanada the aggregate amount of $1,245,000, being the amount by which the tolls set by this Order exceed the tolls charged by TQM under Board Order TGI-6-90, together with carrying charges thereon to be calculated using the approved rate of return on rate base. Carrying charges on the January deficiency of $415,000 will be calculated from 20 February 1991 to 20 April 1991; carrying charges on the February deficiency of $415,000 will be calculated from 20 March 1991 to 20 April 1991. TQM shall send its bill for the $1,245,000 plus the applicable amount of carrying charges, together with its billing for services rendered in March 1991 by 10 April. Payment and interest on unpaid amounts will be in accordance with TQM's Gas Transportation Tariff filed in accordance with paragraph 7 of this Order.

5. TQM shall charge Gaz Métropolitain, inc. ("GMi"), in respect of storage services, a toll based upon the TS-GMi tariff attached to the Transportation and Storage Service Contract dated 17 March 1987, as amended, filed with the Board under covering letter dated 10 April 1987.

6. TQM shall charge GMi, in respect of storage gas transportation services, a toll based upon the STS-GMi tariff attached to the Storage Gas Transportation Service Contract dated 13 February 1990 filed with the Board under covering letter dated 20 February 1990.

7. TQM shall file with the Board and serve upon all interested parties to the proceedings held pursuant to Order RH-2-90, gas transportation tariffs incorporating the tolls set out in paragraph 3 of this Order.

8. Those provisions of TQM's tariffs and tolls or any portion thereof that are contrary to the RH-2-90 Reasons for Decision or this Order are disallowed after 31 March 1991.

NATIONAL ENERGY BOARD

Marie Tobin
Secretary

Summary of Various Test Results and Final Rate of Return on Equity Recommendations by Expert Witnesses

TQM

(i) Comparable Earnings

	(%)
Low-risk industrial sample results for 1980-89	12.96

(ii) DCF

	Energy Utilities (%)	Telephone Utilities (%)	Low-Risk Industrials (%)
Dividend yield component[1]	7.08-7.34	7.68-7.76	3.61-3.62
Growth component	4.97-8.16	4.17-5.09	9.49-9.88
	12.05-15.50	11.85-12.85	13.10-13.50
Add: Flotation cost allowance[2]	.53-.55	.58-.59	.27
Fair return range	12.58-16.05	12.43-13.44	13.37-13.77
Midpoint of fair return range	14.32	(relied on upper end of range)	13.57

(iii) Risk Premium

(a) Equity Risk Premium (original forecast)

	(%)
Long-Canada rate	11.00
Add: Corporate issuance spread	1.25
Cost of long-term debt to TQM	12.25
Risk premium relative to A+- rated telephone companies for the years 1984-1989	3.12
	15.37[5]

CPA

(i) Comparable Earnings

N/A

(ii) DCF (original forecast)[3]

	(%)
Dividend yield for low-risk industrials	3.40
Implicit growth component	9.10[4]
Investors' required rate of return for sample of low-risk industrials	12.50
Less: Adjustment for lower risk of TQM relative to sample companies	.50-.70
	11.75-12.00 (emphasis on upper end of range)

(iii) Equity Risk Premium (original forecast)[6]

	(%)
Equity risk premium - market as a whole	3.0-4.2
Times: Adjustment factor for lower risk of TQM	.5
Equity risk premium - utilities	1.5-2.1
Long-Canada rate	11.00
	12.50-13.10 (emphasis on upper end of range)

---

1 Measured as (fair return minus growth component) x .93 (Source: Exhibit B-23, Pages 1 to 4 of 4 of Exhibit RAM-11 and Pages 3 to 4 of 4 of Exhibit RAM-12).

2 Approximate implicit flotation cost allowance (Source: Exhibit B-23, Pages 1 to 4 of 4 of Exhibit RAM-11 and Pages 3 to 4 of 4 of Exhibit RAM-12).

3 During the hearing, CPA's witness indicated that there had been no change in the investors' required rate of return as measured by the DCF technique (Source: Tr. 240).

4 Investors' required rate of return for low-risk industrials of 12.5 percent less dividend yield of 3.4 percent.

5 TQM's witness did not change this risk premium result at the time of the hearing despite a drop in long-Canada rates to 10.7 percent, noting that corporate issuance spreads had widened (Source: Tr. 210).

6 During the hearing, CPA's witness indicated that the investors' required rate of return, as measured by the equity risk premium approach, had decreased by about 50 basis points given the decline in long-Canada rates of some 90 basis points (Source: Tr. 240).

TQM			CPA	

(b) CAPM/ECAPM

	CAPM (%)	ECAPM (%)
Risk premium - market as a whole[7]	6.00-8.00	6.00-8.00
Times: Adjustment factor for lower risk of TQM	.57	.6775[8]
	3.42-4.56	4.07-5.42
Long-Canada rate	10.70	10.70
	14.12-15.26	14.77-16.12
Add: Flotation cost adjustment	.30	.30
Cost of equity range	14.42-15.56	15.07-16.42
Midpoint of cost of equity range	14.99	15.74

TQM

(iv) Final ROE Recommendation

	(%)
Average of seven test results	14.34[9]
Average of remaining test results after removing high and low estimates (i.e. 12.96 and 15.74 percent)	14.34[9]
Final ROE recommendation	14.25-14.50[10]

CPA

(iv) Final ROE Recommendation

	(%)
Approximate average of original DCF and equity risk premium results	12.50-12.75[11]
Add: Adjustment re unique risks of TQM	.25
Investors' required rate of return - utilities	12.75-13.00
Additional add-on	.375[12]
Final ROE recommendation	13.125-13.375[13]

7 TQM's witness opined that the market risk premium is at the lower end of the range given current circumstances (Source: Tr. 134).
8 Effective adjustment factor for lower risk of TQM (Source: Exhibit B-25, Page 39).
9 Source: Exhibit B-25, Pages 51 and 52.
10 TQM's witness emphasized the lower end of this range for 1991 and the upper end for 1992 (Source: Tr. 189 and 212).
11 Approximate average of the upper end of his original DCF and equity risk premium ranges (Source: Exhibit C-1-4, Page 36, as corrected at Tr. 237).
12 Implicit cushion added on by CPA's witness to take into account the recent and prospective volatility in interest rates and the need for a margin of safety in his final result (Source: Exhibit C-1-4, Page 2).
13 CPA's witness focussed on the lower end of this range for both test years (Source: Tr. 401 and 402).